

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) Method for synchronizing a robot that includes a control system, a first robot part and a second robot part movably attached to the first robot part, whereby the position of a target arranged on the first robot part is determined by the passage of a sensor arranged on the second robot part, said method comprising the steps of:

causing the target to include several distinct detectable changes comprising step-like structural changes, said step-like structural changes being defined by ~~generally~~ sharp level differences in surfaces of said first robot part and comprising vertical walls or sides,

sensing at least two of said distinct detectable changes by the sensor at said respective step-like structural changes,

calculating the position of the target by determining a center-point of adjacent step-like structural changes, and

introducing the calculated target position into the control system and comparing the target position with a calibration position for the target in the control system.

2. (Previously Amended) Method according to claim 1, wherein calculating the position of the target is effected by reading with the sensor which comprises a non-contact sensor.

3. (Previously Amended) Method according to claim 1, wherein calculating the position of the target is effected by reading with the sensor which comprises a contact sensor.

4. (Currently Amended) Method according to claim 1, wherein the target comprises a groove with said substantially vertical walls.

5. (Currently Amended) Method according to claim 1, wherein the target comprises an elevation with said substantially vertical sides.

6. (Currently Amended) Device for synchronizing a robot that includes a control system, a first robot part and a second robot part movably attached to the first robot part, the device comprising:

a target arranged on the first robot part; and

a sensor arranged on the second robot part,

wherein the target includes several distinct detectable changes comprising step-like structural changes, said step-like structural changes being defined by generally sharp level differences in surfaces of said first robot part and comprising vertical walls or sides, said sensor sensing at least two of said distinct detectable changes at said respective step-like structural changes to thereby enable the synchronizing of said robot by calculating a position of the target corresponding to a center-point of adjacent step-like structural changes.

7. (Previously Amended) Device according to claim 6, wherein the step-like structural changes comprise instantaneous level differences in the form of shoulder parts.

8. (Currently Amended) Device according to claim 6, wherein the target comprises a groove with said substantially vertical walls.

9. (Currently Amended) Device according to claim 6, wherein the target comprises an elevation with said substantially vertical sides.

10. (Cancelled)

11. (New) Method for synchronizing a robot that includes a control system, a first robot part and a second robot part movably attached to the first robot part, whereby the position of a target arranged on the first robot part is determined by the passage of a sensor arranged on the second robot part, said method comprising:

causing the target to include at least one of substantially vertical sides and substantially vertical walls, level differences in respective surfaces of said substantially vertical sides or walls defining distinct detectable structural changes in surfaces of said first robot part,

sensing at least two of said distinct detectable changes by the sensor at said respective structural changes,

calculating the position of the target by determining a center-point of adjacent structural changes, and

introducing the calculated target position into the control system and comparing the target position with a calibration position for the target in the control system.

12. (New) Method according to claim 11, wherein calculating the position of the target is effected by reading with the sensor which comprises a non-contact sensor.

13. (New) Method according to claim 11, wherein calculating the position of the target is effected by reading with the sensor which comprises a contact sensor.

14. (New) Method according to claim 11, wherein said target comprises a groove with said substantially vertical walls.

15. (New) Method according to claim 11, wherein said target comprises an elevation with said substantially vertical sides.

16. (New) Device for synchronizing a robot that includes a control system, a first robot part and a second robot part movably attached to the first robot part, the device comprising:

a target arranged on the first robot part; and

a sensor arranged on the second robot part,

wherein the target includes at least one of substantially vertical sides and substantially vertical walls, level differences in respective surfaces of said substantially vertical sides or walls defining distinct detectable structural changes in surfaces of said first robot part, said sensor sensing at least two of said distinct detectable changes at said respective structural changes to thereby enable the synchronizing of said robot by calculating a position of the target corresponding to a center-point of adjacent structural changes.

17. (New) Device according to claim 16, wherein the structural changes comprise instantaneous level differences in the form of shoulder parts.

18. (New) Device according to claim 19, wherein said target comprises a groove with said substantially vertical walls.

19. (New) Device according to claim 19, wherein said target comprises an elevation with said substantially vertical sides.